Codian ISDN Gateway

MSE 8321

Getting started

TANDBERG

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General information

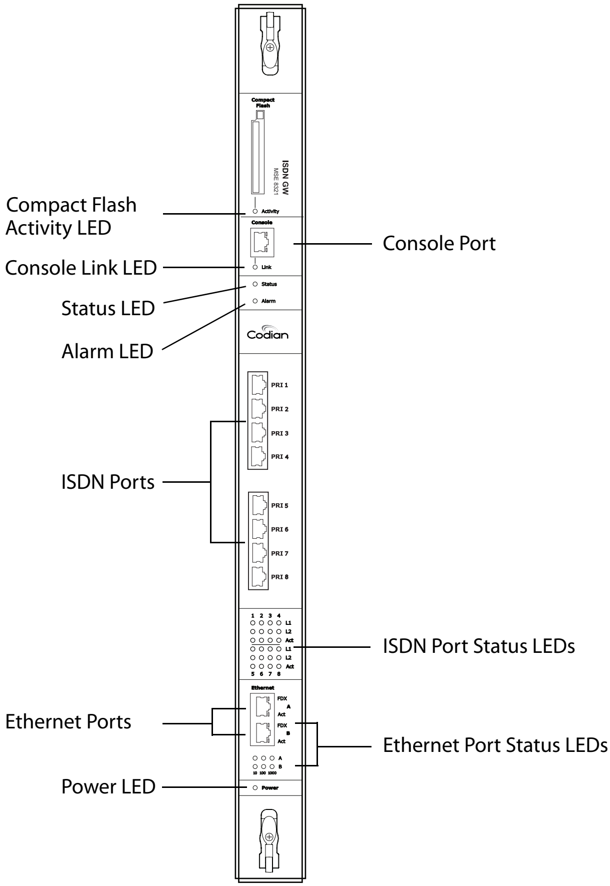
About the ISDN gateway

The ISDN gateway is a high performance video gateway which enables ISDN network connectivity for the Codian IP-based video infrastructure products as well as IP-based endpoints.

Port and LED location

Figure 1 shows the position of ports on the ISDN gateway.

Figure 1: ISDN gateway front panel



LED behavior

Table 1 describes the behavior of the LEDs.

Table 1: ISDN gateway LED behavior

LED	Color	Indicates
Compact Flash Activity	Flashing green	One of: ▸ the ISDN gateway is booting ▸ a configuration change has been made ▸ the configuration is being transferred by FTP
Console Link	Green	A PC is connected to the console port
Status	Green	The ISDN gateway is operating normally
Alarm	Red	The ISDN gateway is booting or has developed a fault, for example: ▸ temperature is outside normal limits ▸ battery failure of the internal clock Refer to the web interface for more information about the problem (go to **Status > Health**)
ISDN Port Status, for each ISDN port:		
L1	Off	There is no connection on this port, or the ISDN gateway is not receiving framing (also known as Red Alarm)
	Flashing green	The ISDN gateway is receiving framing, but the far end is not receiving framing (also known as Yellow Alarm)
	Green	The port is connected to the far end
L2	Green	Layer 2 connectivity has been achieved with the ISDN network from this port. This means that D-channel signaling has been established with the network
Act	Green	There is at least one active call using this port. Data is currently being received on this port

Table 1: ISDN gateway LED behavior (continued)

LED		Color	Indicates
Ethernet Port Status, for each Ethernet port:			
	FDX	Green	The link has been negotiated as a full-duplex link
	Act	Green	Packets are being transmitted on this port
	Link	Green	The speed of the link from this port, which is either 10, 100, or 1000 Mbps
Power		Blue	The ISDN gateway is receiving power from the MSE 8000 chassis

Installing the ISDN gateway

IMPORTANT: Before installing the ISDN gateway into the MSE 8000, and connecting the power supply, you must read the safety information at http://www.codian.com/safety.htm

Although blades are hot-swappable parts, you must only remove one blade at any time. Remove the power from the MSE 8000, if you need to remove more than one blade at a time.

Before hot-swapping a blade, shut down the blade using the web interface. Do not shut down a blade during a software upgrade or if the blade is processing.

For information about powering the MSE 8000, refer to the Getting Started Guide that accompanied the chassis.

Install the ISDN gateway into the MSE 8000 chassis

You must install either a blade or a blanking blade in each of the ten positions in the chassis.

The Supervisor blade must be installed into slot 1 of the MSE 8000 chassis.

1. Remove the blade or blanking blade from the slot into which you are going to install the ISDN gateway:
   - i Using a No.1 Phillips screwdriver, loosen the screws in the retaining latches with an anti-clockwise quarter turn.
   - ii Open both retaining latches on the front of the blade or blanking blade. When open, a retaining latch is at a 90° angle perpendicular to the front of the blade.
   - iii Slide out the blade or blanking blade.
2. Open both retaining latches on the front of the ISDN gateway. When open, a retaining latch is at a 90° angle perpendicular to the front of the blade.
3. Slide the ISDN gateway into the blade slot (as shown in Figure 2) until it stops.
4. Simultaneously close both retaining latches on the blade (thereby engaging the connectors at the rear of the blade) to secure in the chassis as shown in Figure 3.

5 Using a No.1 Phillips screwdriver, tighten the screws in the retaining latches with a clockwise quarter turn.

Figure 2: Inserting a blade into the chassis

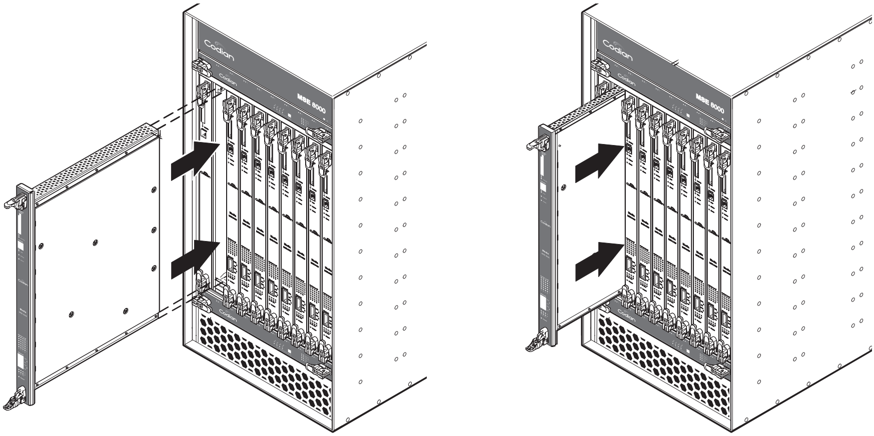
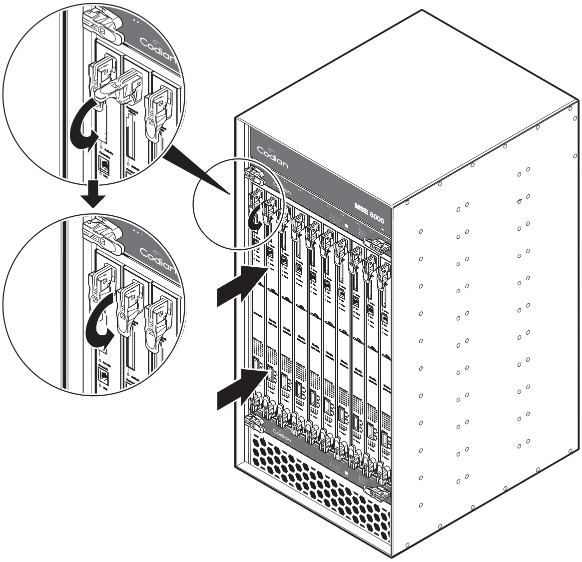


Figure 3: Closing the retaining latches on the front of a blade



Connecting the ISDN gateway

Your ISDN connection

To reduce the risk of fire, use only 26 AWG or larger telecommunication line cord.

Outside North America

Check with your network provider to ensure that your incoming ISDN PRI line is terminated in an NTU/CSU (Network Termination Unit/ Channel Service Unit). If it is not, then seek their advice regarding the provisioning of such a device. Do not connect the ISDN gateway directly to an external ISDN line.

Within North America

If your network provider has not terminated all of your incoming ISDN PRI lines with an NTU/CSU, Codian recommends that you install a suitably approved CSU to protect the ISDN gateway from damage by surges on your ISDN PRI lines.

Step one: Connect to Ethernet Port A

Connect an Ethernet cable from Ethernet Port A to an Ethernet switch (rather than a hub, to minimize interference from other devices on the network). The Ethernet port is a 10/100/1000 Mbps auto-sensing connection.

Only connect to Ethernet Port A. Ethernet Port B is reserved for future expansion; do not connect anything to Ethernet Port B.

Step two: Connect to the ISDN ports

The ISDN gateway uses a standard RJ48C ISDN interface for each PRI port.Use a single straight-through STP patch cable to connect each PRI port on the ISDN gateway to your ISDN connection.

For information about the behavior of the ISDN port LEDs, refer to Table 1, ISDN gateway LED behavior, on page 2.

Initial configuration

Step one: Configure Ethernet Port A settings

The default setting for the ISDN gateway Ethernet ports is auto-sensing mode. If the switch ports to which you connect the ISDN gateway are not also set to auto-sensing mode, then you need to configure the ISDN gateway Ethernet ports to use the same speed and duplex mode.

Only connect to Ethernet Port A. Ethernet Port B is reserved for future expansion; do not connect anything to Ethernet Port B.

Both ends of the Ethernet connection must be configured in the same way. For example, either configure both ends of the link to be auto-sensing or configure both ends to operate at the same speed and duplex.

To establish a 1000Mbps connection, both ends of the link must be configured as auto-sensing.

To configure Ethernet Port A, log in to the Supervisor's web interface and go to **Hardware > Blades**. For more information about configuring the port, refer to the online help accessible from the Supervisor's web interface.

Step two: Assign an IP address to the ISDN gateway

You can use the Supervisor's web interface to configure the IP addresses of all blades installed in the MSE 8000. Note that all blades are supplied with DHCP enabled. You can either keep this setting or assign static IP addresses to a blade from the Supervisor's web interface. To view or configure the IP address of the ISDN gateway, log in to the Supervisor and go to **Hardware > Blades**. To access the web interface of the ISDN gateway, go to **Hardware > Blades** and click the IP address of that blade.

Configuring the ISDN gateway

Step one: Log in to the ISDN gateway

All administration of the ISDN gateway is performed via the web interface.

1 To log in to the Log in to the Supervisor's web interface.

2 Go to **Hardware > Blades** and click the IP address of the ISDN gateway.

3 Click **Click here to log in**, and then click **Change log in** and enter the user name **`admin`** with no password.

Codian recommends that you change the admin account to use a password as soon as possible. To do that, go to **Users**, click the **admin** link, and provide the required user information.

Step two: Set up the ISDN interfaces

1 In the web interface, go to **Settings > ISDN**.

2 Select the **ISDN interface type** to match that of your installation; E1 is typically used in the UK and mainland Europe, T1 (USA and Canada) in North America, and T1(Japan) in Japan.

3 Complete the other settings as required by your network, referring to the online help for further information.

4 Click **Apply changes** to save any changes you have made to the configuration.

5 Restart the ISDN gateway (this is only necessary if you changed the ISDN configuration). To do this:

  i Go to **Settings > Shutdown**, and click **Shut down ISDN GW**.

  ii Confirm that you want to shut down the ISDN gateway.

  iii Click **Restart ISDN GW**.

6 When the ISDN gateway has restarted, log in to the web interface again, and go to **Settings > ISDN ports**.

7 Complete the settings for ISDN Port 1 as required by your network, referring to the online help for further information. Note that all ISDN ports on the ISDN gateway are enabled by default.

8 Click **Apply changes** to save your configuration changes to the ISDN port.

9 If required, configure another ISDN port by selecting the port number from the numbered links at the top right of the ISDN port configuration page.

Step three: Configure an H.323 gatekeeper

If you have H.323 endpoints, using an H.323 gatekeeper can make it easier for callers to make their call. You can configure the ISDN gateway to use an external gatekeeper or its own built-in gatekeeper.

To configure the use of an H.323 gatekeeper, go to **Settings > Gatekeeper**. Typically you may want to add a Dial plan prefix for voice calls (for example 9) and another for video calls (for example 8).

For more information refer to the online help topic: “Configuring gatekeeper settings”.

Step four: Configure the dial plan

The default behavior of the ISDN gateway is to reject all calls. You must configure a dial plan to allow permitted calls to be placed.

Below are some simple configurations for dial plan rules.

IP to ISDN dial plan setup

This example allows IP codecs to dial (via a gatekeeper) the ‘phone number of the destination endpoint, using a prefix of 9 for audio calls and 8 for video calls. It assumes that you require both video and voice calls to be made from your IP network to ISDN and that you have set up dial plan prefixes 8 and 9 on the ISDN gateway’s **Settings > Gatekeeper** page.

1. In the web interface, go to **Dial plan > IP to ISDN** and click **Add rule**.
2. For **Condition**, select **Called number matches** and enter the correct match for example 9(D*).
3. For **Action**, select **Call this number** and enter $1.
4. For **Call type**, select **Telephone**.
5. Leave the other values unchanged. Click **Add rule** to add the rule to the dial plan.
6. Repeat steps 1 to 5 to create a second dial plan to accept and forward the video calls with the correct format in **Called number matches**, for example 8(D*) and for **Call type**, select **Video**.

ISDN to IP dial plan setup

Options 1 and 2 will automatically handle both voice and video calls.

Option 1 - This example assumes that you have a PRI line that has 100 numbers (00 to 99) associated with it and that all your endpoints are registered to a gatekeeper with registrations in the range 5900 - 5999.

1. Go to **Dial plan > ISDN to IP**, and click **Add rule**.
2. For **Condition**, select **Called number matches** and enter the correct match for example D*(DD), which will match the last 2 digits of the dialed number. To match the last 3 digits, use D*(DDD).
3. For **Action**, select **Call this number** and enter 59$1.
4. For **Call type**, select **Video**.
5. Leave the other values unchanged. Click **Add rule** to add the rule to the dial plan.

Option 2 - This example assumes that you have a PRI line which has 1 number associated with it but you require access to multiple endpoints on the IP side. When you dial you will be greeted by the ISDN gateway's auto attendant and using TCS-4 or DTMF you can dial the extension of the IP endpoint, if known.

1. Go to **Dial plan > ISDN to IP**, and click **Add rule**.
2. For **Condition**, select **Match any called number**.
3. For **Action**, select **Enter the auto attendant + TCS-4**.
4. For **Call type**, select **Video**.
5. Leave the other values unchanged. Click **Add rule** to add the rule to the dial plan.

There are a number of different ways in which you can use the dial plan. For example, you can use the dial plan to link specific bandwidths to certain prefixes, thereby enabling users to use the correct bandwidth for an IP to ISDN call. You can also use the dial plan to enable the ISDN gateway to join incoming ISDN calls to the correct conference on an MCU. These dial plan configurations — and the dial plan rule syntax — are explained in greater detail and with supporting examples in the online help accessible from the web interface.

Troubleshooting and technical support information

Refer to this section if you are experiencing difficulties with the ISDN gateway. Ensure that you have followed the instructions in this guide when installing and configuring the ISDN gateway.

Calls fail to complete

If outgoing calls fail to complete, check that you have configured the ISDN gateway and all other equipment correctly, paying particular attention to the number you are trying to call. Remember that endpoints may be busy when you call them.

Using the event log to help solve a problem

Unless you are experiencing a problem, all event logging sources should be set to the default, which is **Errors, warnings and information**. For more information about configuring the event log, refer to the online help accessible from the web interface.

You can use the event log to produce debugging information to assist technical support in solving your problem. However, we recommend that you only alter the setting of the event log under the guidance of technical support representatives. In particular, it is not recommended that you indiscriminately turn on event logging sources.

Getting more help

If the documentation does not answer your question or you have a problem with one of our products:

1. Refer to the Technical FAQ and Troubleshooter sections of the web site. We keep both sections up to date with the latest information from our technical support team regarding the resolution of customer issues.
2. Contact your reseller. Our resellers have a wealth of experience with our products and this is sometimes a quick way of solving a problem.
3. If your query remains unsolved, there is a web form in the Support area of the web site that you can complete. Ensure that you provide all the details requested by the form to assist the technical support team in resolving your problem:
   - the serial number and product model number (for example: MSE 8321) of the MSE blade
   - the software build number (to find this, in the web interface, go to **Status > General**)
   - where you purchased the MSE blade
   - your contact email address or telephone number

Pin outs

The pin numbering for the PRI ports on the ISDN gateway is shown in Figure 4. The pin assignments for the PRI ports are shown in Table 2:

Table 2: Pin assignments for PRI ports

Pin number	Signal
1	Receive -
2	Receive +
3	Not connected
4	Transmit -
5	Transmit +
6	Not connected
7	Not connected
8	Not connected

Figure 4: Pin numbering for PRI ports

